

**Amendments to the Specification**

Please replace paragraph [0001] with the following rewritten paragraph:

[0001] The present invention relates to an electronic-circuit-component supplying method of supplying electronic circuit components in the form of component supplying tape or component tape, a method of providing an identification code in the component tape, and a method of providing information in the component supplying tape. The invention also relates to a ~~component-supplying-tape~~ component-tape connecting member, a connecting-member supplying device, an electronic-circuit-component supplying system and an electronic-circuit-component mounting system which are favorable for carrying out the above-described methods.

Please replace paragraph [0002] with the following rewritten paragraph:

[0002] As one form of electronic-circuit-component supplying system, there is a system including a tape feeder arranged to feed a component ~~supplying~~ tape which ~~holds~~ includes a carrier tape and a plurality of electronic circuit components arranged in a longitudinal direction of a the carrier tape, in the longitudinal direction of the carrier tape, for thereby positioning each of the plurality of electronic circuit components in a predetermined supplying position. In such a form of electronic circuit component supplying system, if a wrong component ~~supplying~~ tape which is different in kind from a predetermined one were erroneously installed on the tape feeder, unexpected electronic circuit components would be supplied. For example, where the electronic circuit component supplying system is used as a part of electronic circuit component mounting system for assembling an electronic circuit by mounting electronic circuit components onto a circuit board such as a printed-wiring board, unexpected electronic circuit components are mounted on the circuit board in the event of erroneous installation of a wrong component ~~supplying~~ tape on the tape feeder, resulting in fabrication of defective electronic circuit.

Please replace paragraph [0003] with the following rewritten paragraph:

[0003] For avoiding occurrence of such an inconvenience, conventionally, an identification information is provided in a tape reel, a tape storing box or other member which stores the component ~~supplying~~ tape, wherein the identification information relates to the electronic circuit components ~~held by~~ of the component ~~supplying~~ tape. The identification information is provided in the member storing the component ~~supplying~~ tape, by printing a bar code, a two-dimensional code or other identification code onto the storing member, or by

affixing a label having a printed identification code, onto the storing member. For example, when the component ~~supplying~~ tape is installed on the tape feeder, the identification code is recognized by an identification-code recognizing device such as a bar code reader, whereby it is determined whether the recognized identification code corresponds to a predetermined identification code or not. If not, an operator of the system is informed of the fact (for example, see Patent Document 1). This kind of system will be referred to as erroneous-installation preventing system in the present specification.

Please replace paragraph [0005] with the following rewritten paragraph:

[0005] However, there is a case where it is inconvenient that the identification information relating to the component ~~supplying~~ tape is provided in the ~~component-supplying-tape~~ component-tape storing member such as the tape reel. For example, when a tape splicing is effected, supply of wrong electronic circuit components can not be prevented. The tape splicing is an operation effected, when a number of the electronic circuit components ~~held by~~ of the component ~~supplying~~ tape presently supplying the electronic circuit components has become small, for connecting another component ~~supplying~~ tape supposed to next supply the components, to the presently used component supplying tape. In this operation, a tail end portion or trailing end portion of the preceding component ~~supplying~~ tape is connected to a top end portion or leading end portion of the subsequent component ~~supplying~~ tape through a connecting member. By thus connecting the two component ~~supplying~~ tapes at their end portions, it is possible to continue supply of the electronic circuit components, without suspension of the component supply or with a reduced number of the suspension of the component supply. This is contrast to an arrangement where the preceding component ~~supplying~~ tape is replaced with the subsequent component ~~supplying~~ tape, and leads to improvement in efficiency of the component supply. However, since the conventional erroneous-installation preventing system can not be used in the case where the tape splicing is thus effected, there is no alternative but to depend on a cautious attention paid by the operator, for preventing erroneous supply of wrong electronic circuit components.

Please replace paragraph [0006] with the following rewritten paragraph:

[0006] The conventional erroneous-installation preventing system suffers from inconvenience not only in the operation of the tape splicing but also in other instance. For example, after each feeder holding the tape reel is installed on a feeder holder base, the identification code of the component

supplying tape or the component-tape code can no longer be recognized by the identification-code recognizing device. It is common that the identification code is provided on a side face of the tape reel, and that the feeder holder base holds a plurality of feeders which are positioned to be closed to each other. That is, in this arrangement in which there is no large spacing distance between the mutually opposed side surfaces of the tape reels, the identification-code recognizing device can not be positioned to be opposed to the identification code.

Please replace paragraph [0007] with the following rewritten paragraph:

[0007] The present invention was developed under the above-described background situation and has an object of providing an improvement in the supply of the electronic circuit components by the component supplying tape. Owing to the present invention, it is possible to obtain a ~~component-supplying-tape~~ component-tape connecting member, a connecting-member supplying device, an electronic-circuit-component supplying system, an electronic-circuit-component mounting system, a component-tape code providing method, a component-information providing method and an electronic-circuit-component supplying method which are described below in modes, each of which is numbered like claims and depends from the other mode or modes, as needed, for easier understanding of the present invention. It is to be understood that the technical features or any combinations thereof disclosed in the present specification is not limited to what are described in the following modes. It is to be further understood that a plurality of elements or features included in any one of the following modes (1)-(32), (41)-(47), (50)-(52), (60)-(64), (70)-(76), (80)-(82), (90) and (100) of the invention are not necessarily provided all together, and that the invention may be embodied with selected one or ones of the elements or features described with respect to the same mode.

Please replace paragraph [0008] with the following rewritten paragraph:

[0008] (1) An electronic-circuit-component supplying method of supplying each of a plurality of electronic circuit components to a predetermined supplying position, by feeding a component tape which includes a carrier tape and the plurality of electronic circuit components held by the carrier tape and arranged in a longitudinal direction of the carrier tape, in the longitudinal direction of the carrier tape, the method ~~being characterized by~~ including:

a component-tape information reading step of reading, by a component-tape information reading device, component-tape information relating to the component tape and represented by an information medium portion which is provided in the component tape; and  
an information utilizing step of utilizing the component-tape information read in the component-tape information reading step.

Please replace paragraph [0009] with the following rewritten paragraph:

[0009] The above-described component-tape information may be a bar code or a two-dimensional code (QR code) which is represented by readable by recognizing the code with a code recognizing device as an optical information reading device, or may be stored in an information medium piece to and from which the information is writable and readable by means of a light such as laser light in the same principle as an optical disc or a magneto-optical disc, or may be stored in an information communication storage chip equipped with a communication portion capable of having communication in a non-contact manner. As the component-tape information reading device, a device suitable for property of information to be read or property of information medium portion storing the information is used.

Please replace paragraph [0010] with the following rewritten paragraph:

[0010] The component tape may be provided with at least one ~~component-tape code or~~ information medium portion such as a component-tape code or tap chip. However, commonly, it is more convenient that the component tape is provided with a plurality of ~~component-tape codes or~~ information medium portions. For example, the plurality of ~~component-tape codes or~~ information medium portions may be provided in leading and trailing end portions of the component tape, or may be provided over the entire length of the component tape. In either case, it is preferable that the plurality of ~~component-tape codes or~~ information medium portions are provided to be equally spaced apart from each other. Further, commonly, it is more convenient that the plurality of ~~component-tape codes or~~ information medium portions are provided on a top surface of the component tape, i.e., one of opposite surfaces of the component tape which is positioned on the upper side of the other surface during supply of the components. However, depending upon the position of the component-tape information reading device such as a component-tape code recognizing device, it is also possible to provide the plurality of ~~component-tape codes or~~ information medium portions on a bottom surface of the component tape.

Please replace paragraph [0013] with the following rewritten paragraph:

[0013] (2) An electronic-circuit-component supplying method according to mode (1), wherein the information utilizing step includes an information generating step of comparing the read component-tape information with predetermined component-tape information, and generating variable information which varies depending upon whether the read component-tape information corresponds to the predetermined component-tape information or not.

Please replace paragraph [0015] with the following rewritten paragraph:

[0015] Since the variable information generated in the information generating step varies depending upon whether or not the read component-tape information corresponds to the predetermined component-tape information, an operator can be informed, by the generated information, of a fact that wrong component tape has been erroneously installed on a component supplying device. Further, supply of the components can be stopped in accordance with the generated information.

Please replace paragraph [0016] with the following rewritten paragraph:

[0016] (3) An electronic-circuit-component supplying method according to mode (1) or (2), including a component-tape code providing step of providing a component-tape code representative of as the component-tape information, in the component tape.

Please replace paragraph [0023] with the following rewritten paragraph:

[0023] (7) An electronic-circuit-component supplying method according to mode (5) or (6), wherein the code-carrying connecting-member preparing step includes a storing-member code recognizing step of recognizing, by a storing-member code recognizing device, a storing-member code provided in a tape storing member which stores the component tape, wherein the connecting member is provided with the component-tape code in the form of an identification code which represents information corresponding to information represented by the storing-member code recognized in the storing-member-code recognizing step.

Please replace paragraph [0024] with the following rewritten paragraph:

[0024] The storing member may be provided by, for example, a tape reel onto which the component tape is wound, or a tape storing box in which the component tape is stored.

The tape storing member is commonly provided with the storing-member code (which commonly corresponds to the component-tape code of the component tape stored in the storing member). Therefore, in the arrangement in which the connecting member is provided with the identification code representing the information that corresponds to the information represented by the recognized storing-member code, the identification code provided in the connecting member can be recognized, as the component-tape code of the component tape, by the component-tape code recognizing device in the component-tape code recognizing step. It is commonly easier to recognize the component-tape code provided in the component tape, than to recognize the storing-member code provided in the tape storing member. Further, where the component tape is provided with the component-tape code prepared in accordance with a result of the recognition of the storing-member code, it is possible to reliably avoid erroneous provision of a wrong component-tape code in the component tape.

Please replace paragraph [0025] with the following rewritten paragraph:

**[0025]** (8) An electronic-circuit-component supplying method according to any one of modes (4)-(7), including a comparing step of comparing the component-tape code provided in the connecting member, with the component-tape code provided in the above-described one of the component tapes, wherein the information generating step is a step of generating the information where the component-tape information represented by one of the two compared component-tape codes and the component-tape information represented by the other of the two compared component-tape codes do not correspond to each other.

Please replace paragraph [0027] with the following rewritten paragraph:

**[0027]** (9) An electronic-circuit-component supplying method of supplying each of a plurality of electronic circuit components to a predetermined supplying position by feeding a component tape which includes a carrier tape and the plurality of electronic circuit components held by the carrier tape and arranged in a longitudinal direction of the carrier tape, in the longitudinal direction of the carrier tape, the method ~~being characterized by~~ including:

a connecting step of connecting two component tapes such that a trailing end portion of one of the two component tapes and a leading end portion of the other of the two component tapes are connected; and

an information generating step of generating variable information which varies depending upon whether component-tape information represented by an information medium portion provided in the above-described one of the component tapes corresponds to

component-tape information represented by an information medium portion provided in the above-described other of the component tapes.

Please replace paragraph [0026] with the following rewritten paragraph:

**[0028]** The information medium portion representative of component-tape information may be provided in the component tape, by either a maker or user of the component tape. In either case, if a wrong component tape had been erroneously connected to the above-described one of the component tapes, the operator can be informed of this fact by the variable information generated in the information generating step.

Please replace paragraph [0026] with the following rewritten paragraph:

**[0029]** (10) An electronic-circuit-component supplying method according to mode (9), wherein each of the above-described one and other of the component tapes is provided with a component-tape code as representative of the component-tape information, the method including:

a step of recognizing, by a component-tape code recognizing device, the component-tape code provided in the above-described one of the component tapes; and  
a step of recognizing, by the above-described component-tape code recognizing device or another component-tape code recognizing device, the component-tape code provided in the above-described other of the component tapes,

wherein the information generating step includes a step which is implemented when information represented by the code provided in the above-described one of the component tapes does not correspond to information represented by the code provided in the above-described other of the component tapes, to generate information indicating this fact.

Please replace paragraph [0030] with the following rewritten paragraph:

**[0030]** (11) An electronic-circuit-component supplying method according to any one of modes (2)-(10), including an informing step which is implemented at least when the information represented by one of two component-tape codes does not correspond to the information represented by the other of the two component-tape codes, in accordance with the variable information generated in the information generating step, to inform the operator of this fact.

Please replace paragraph [0031] with the following rewritten paragraph:

**[0031]** Where the information represented by the above-described one component-tape code does not correspond to the information represented by the other component-tape code, this fact is informed to the operator so that the operator can easily take necessary measures.

Please replace paragraph [0032] with the following rewritten paragraph:

**[0032]** (12) An electronic-circuit-component supplying method according to any one of modes (2)-(11), including a supply suspending step which is implemented when the information represented by one of two component-tape codes does not correspond to the information represented by the other of the two component-tape codes, in accordance with the variable information generated in the information generating step, to suspend supply of the electronic circuit components.

Please replace paragraph [0033] with the following rewritten paragraph:

**[0033]** Where the information represented by the above-described one component-tape code does not correspond to the information represented by the other component-tape code, the component supply is suspended thereby making it possible to reliably avoid erroneous supply of wrong kind of electronic circuit components.

Please replace paragraph [0035] with the following rewritten paragraph:

**[0035]** It is common that the connecting member is provided in each of the carrier tape and the cover tape. Although the ~~component-tape~~ information medium portion such as the component-tape code may be provided in at least one of the carrier tape and the cover tape, it is common that the provision of the ~~component-tape~~ information medium portion in the cover tape rather than in the carrier tape facilitates the reading of the component-tape information by the component-tape code recognizing device.

Please replace paragraph [0036] with the following rewritten paragraph:

**[0036]** (14) An electronic-circuit-component supplying method according to any one of modes (1)-(13), wherein the component-tape information reading device includes an optical reading device which reads, in an optical manner, a component-tape code as the ~~component-tape~~ information medium portion.



Please replace paragraph [0038] with the following rewritten paragraph:

**[0038]** (15) A component-tape information providing method including:  
a storing-member information reading step of reading, by a storing-member information reading device, storing-member information represented by a first information medium portion which is provided in a tape storing member storing a component tape which includes a carrier tape and the plurality of electronic circuit components held by the carrier tape and arranged in a longitudinal direction of the carrier tape; and  
a component-tape information providing step of providing the component tape with a second information medium portion which represents component-tape information relating to the component tape, wherein the component-tape information corresponds to the storing-member information which is read in the storing-member information reading step.

Please replace paragraph [0039] with the following rewritten paragraph:

**[0039]** The storing-member information may be represented by a bar code or a two-dimensional code which is readable by recognizing the code with an optical code recognizing device, or may be stored in an information medium piece to and from which the information is writable and readable by means of a light such as laser light in the same principle as an optical disc or a magneto-optical disc, or may be stored in an information communication storage chip equipped with a communication portion capable of having communication in a non-contact manner. As the component-tape information reading device, a device suitable for property of information to be read or property of information medium portion storing the information is used.

Please replace paragraph [0040] with the following rewritten paragraph:

**[0040]** The description with respect to the above mode (7) applies to the present mode. However, in the present mode, the component-tape information does not have to be necessarily represented by a component-tape code, and the second information medium portion representative of the component-tape information does not have to be provided necessarily in the connecting member. The description with respect to the above mode (2) applies to the “correspondence of the component-tape information to the storing-member information” in the present mode. The component tape is provided with the second information medium portion which represents component-tape information corresponding to the storing-member information represented by the first information medium portion provided in the tape storing member, so that the information medium portion representing appropriate information is easily and reliably provided in the component tape.

Please replace paragraph [0041] with the following rewritten paragraph:

**[0041]** (16) A component-tape information providing method according to mode (15), wherein the component-tape information providing step includes a step of providing a connecting member with a component-tape code as the second information medium portion which represents the component-tape information that corresponds to the storing-member information represented by a storing member code as the first information medium portion which is recognized in a storing-member code recognizing step as the storing-member information reading step, and a step of connecting two component tapes such that a trailing end portion of one of the two component tapes and a leading end portion of the other of the two component tapes are connected through the connecting member.

Please replace paragraph [0043] with the following rewritten paragraph:

**[0043]** (17) An electronic-circuit-component supplying system comprising:  
a tape feeder which supplies each of a plurality of electronic circuit components to a predetermined supplying position, by feeding a component tape which includes a carrier tape and the plurality of electronic circuit components held by the carrier tape and arranged in a longitudinal direction of the carrier tape, in the longitudinal direction of the carrier tape;  
a component-tape information reading device which reads component-tape information relating to the component tape and represented by an information medium portion which is provided in the component tape fed by the tape feeder; and  
an information utilizing device which utilizes the component-tape information read by the component-tape information reading device.

Please replace paragraph [0044] with the following rewritten paragraph:

**[0044]** The above-described component-tape information may be represented by a bar code or a two-dimensional code which is readable by recognizing the code with a code recognizing device as an optical information reading device, or may be stored in an information medium piece to and from which the information is writable and readable by means of a light such as laser light in the same principle as an optical disc or a magneto-optical disc, or may be stored in an information communication storage chip equipped with a communication portion capable of having communication in a non-contact manner. As the component-tape information reading device, a device suitable for property of information to be read or property of information medium portion storing the information is used.

Please replace paragraph [0045] with the following rewritten paragraph:

**[0045]** (18) An electronic-circuit-component supplying system according to mode (17), wherein the information utilizing device includes an information generating portion which generates variable information which varies depending upon whether the component-tape information read in the component-tape information reading device is corresponds to predetermined information or not.

Please replace paragraph [0046] with the following rewritten paragraph:

**[0046]** (19) An electronic-circuit-component supplying system according to mode (17) or (18), including a component-tape information providing device which provides the ~~component-tape~~ information medium portion in the component tape.

Please replace paragraph [0047] with the following rewritten paragraph:

**[0047]** The ~~component-tape information such as the~~ component-tape code representative of the component-tape information may be attached directly to the component tape, or alternatively, may be attached to a member other than the component tape, for example, a connecting member which connects a trailing end portion of one of two component tapes with a leading end portion of the other of the two component tapes, as described in the following mode.

Please replace paragraph [0048] with the following rewritten paragraph:

**[0048]** (20) An electronic-circuit-component supplying system according to mode (19), wherein the component-tape information providing device includes a tape connecting device which connects two component tapes such that a trailing end portion of one of the two component tapes and a leading end portion of the other of the two component tapes are connected through a connecting member which is provided with a component-tape code ~~as~~ representative of the component-tape information so that the component-tape code is provided in the connected component tapes.

Please replace paragraph [0053] with the following rewritten paragraph:

**[0053]** (23) An electronic-circuit-component supplying system according to mode (21) or (22), wherein the code-carrying connecting-member preparing device includes:

a storing-member code recognizing device which recognizes a storing-member code provided in a tape storing member storing the component tape; and

a connecting-member code providing device which provides the connecting member with the component-tape code in the form of an identification code which represents information corresponding to the storing-member information which is represented by the storing-member code recognized by the storing-member code recognizing device.

Please replace paragraph [0055] with the following rewritten paragraph:

**[0055]** (24) An electronic-circuit-component supplying system according to any one of modes (20)-(23), including a comparing portion which compares the component-tape code provided in the connecting member, with the component-tape code provided in the above-described one of the component tapes, wherein the information generating portion generates the information where the component-tape information represented by one of the two compared component-tape codes and the component-tape information represented by the other of the two compared component-tape codes do not correspond to each other.

Please replace paragraph [0057] with the following rewritten paragraph:

**[0057]** (25) An electronic-circuit-component supplying system according to any one of modes (18)-(24), including an informing portion which is operable at least when the information represented by one of two component-tape codes does not correspond to the information represented by the other of the two component-tape codes, in accordance with the variable information generated in the information generating portion, to inform the operator of this fact.

Please replace paragraph [0058] with the following rewritten paragraph:

**[0058]** (26) An electronic-circuit-component supplying system according to any one of modes (18)-(25), including a supply suspending portion which is operable when the information represented by one of two component-tape codes does not correspond to the information represented by the other of the two component-tape codes, in accordance with the variable information generated in the information generating step, to suspend supply of the electronic circuit components.

Please replace paragraph [0059] with the following rewritten paragraph:

**[0059]** (27) A component-tape code providing system including:  
a storing-member information reading portion which reads storing-member information represented by an information medium portion which is provided in a tape storing member storing a component tape which includes a carrier tape and a plurality of electronic circuit components held by the carrier tape and arranged in a longitudinal direction of the carrier tape; and  
a component-tape code providing portion which provides the component tape with a component-tape code ~~as~~ representative of a component-tape information that corresponds to the storing-member information which is read in the storing-member information reading portion.

Please replace paragraph [0061] with the following rewritten paragraph:

**[0061]** (28) A component-tape code providing system according to mode (27), including a code-carrying connecting-member preparing device which provides a connecting member with the component-tape code representative of the component-tape information that corresponds to storing-member information represented by a storing-member code ~~as storing-member information~~ which is recognized by a storing-member code recognizing portion as the storing-member information reading portion, wherein the component-tape code providing portion includes a connecting device which connects two component tapes such that a trailing end portion of one of the two component tapes and a leading end portion of the other of the two component tapes are connected through the connecting member which is prepared by the code-carrying connecting-member preparing device.

Please replace paragraph [0062] with the following rewritten paragraph:

**[0062]** (29) An electronic-circuit-component mounting system, including:  
a component supplying device which supplies a plurality of electronic circuit components;  
a board holding device which holds a circuit board, onto which the electronic circuit components are to be mounted so that the circuit board constitutes an electronic circuit; and  
a component mounting device which receives the electronic circuit components from the component supplying device, and mounts the electronic circuit components onto the circuit board held by the board holding device,  
~~the system being characterized in that~~

wherein the component supplying device includes a tape feeder which sequentially supplies the electronic circuit components to a predetermined supplying position, by feeding a component tape which includes a carrier tape and the plurality of electronic circuit components held by the carrier tape and arranged in a longitudinal direction of the carrier tape, in the longitudinal direction of the carrier tape,

~~and in that~~ the system ~~includes~~ further including:

a component-tape information reading device which reads component-tape information relating to the component tape and represented by an information medium portion that is provided in the component tape; and

an information generating portion which generates variable information varying depending upon whether the component-tape information read by the component-tape information reading device is corresponds to predetermined information or not.

Please replace paragraph [0063] with the following rewritten paragraph:

**[0063]** The above-described component-tape information may be represented by a bar code or a two-dimensional code which is readable by recognizing the code with a code recognizing device as an optical information reading device, or may be stored in an information medium piece to and from which the information is writable and readable by means of a light such as laser light in the same principle as an optical disc or a magneto-optical disc, or may be stored in an information communication storage chip equipped with a communication portion capable of having communication in a non-contact manner. As the component-tape information reading device, a device suitable for property of information to be read or property of information medium portion storing the information is used. The description with respect to the above mode (2) applies to the present mode.

Please replace paragraph [0064] with the following rewritten paragraph:

**[0064]** (30) An electronic-circuit-component mounting system according to mode (29), includes a component-tape information providing device which provides the component tape with the information medium portion representative of the component-tape information.

Please replace paragraph [0066] with the following rewritten paragraph:

**[0066]** (32) An electronic-circuit-component mounting system according to mode (31), including:

a storing-member information reading device which is provided by the component-tape information reading device or another device and which reads a storing-

member information represented by an information medium portion that is provided in a tape storing member storing the component tape; and

an information-carrying connecting-member preparing device which provides the connecting member ~~connecting the trailing and leading end portions of the respective two component tapes~~ with an information medium portion representative of information, as the component-tape information, corresponding to the storing-member information read by the storing-member information reading device.

Please replace paragraph [0068] with the following rewritten paragraph:

**[0068]** (41) A ~~component-supplying-tape~~ component-tape connecting member for connecting a leading end portion of a component ~~supplying~~ tape and a trailing end portion of another component ~~supplying~~ tape, each of the component ~~supplying~~ tapes ~~holding~~ including a carrier tape and a plurality of electronic circuit components arranged ~~thereon~~ on and held by the carrier tape, and being to be fed in a longitudinal direction thereof for sequentially positioning the electronic circuit components in a component supplying position, the connecting member ~~being characterized by~~ including an information medium portion which enables information to be writable to and readable from the information medium portion.

Please replace paragraph [0069] with the following rewritten paragraph:

**[0069]** The connecting member can serve not only to connect two component ~~supplying~~ tapes but also to store information. Since the connecting member is shorter than the entirety of the component ~~supplying~~ tape, the information can be easily stored in the connecting member. The connecting member may be provided by any one of members having various shapes such as a connecting piece which has a relatively large thickness and is difficult to be bent with a small radius of curvature, and a connecting tape which has a relatively small thickness and is easy to be bent with a small radius of curvature. Further, the connecting member may be formed of a metallic material such as steel, copper, brass, SUS and aluminum, or alternatively, a synthetic resin or a paper.

Please replace paragraph [0070] with the following rewritten paragraph:

**[0070]** (42) A ~~component-supplying-tape~~ component-tape connecting member according to mode (41), wherein the information medium portion enables the information to be writable to and readable from the information recording portion, in a non-contact manner, namely,

without the information medium portion being brought into contact with a device which writes and reads the information to and from the information medium portion.

Please replace paragraph [0071] with the following rewritten paragraph:

**[0071]** In the ~~component-supplying-tape~~ component-tape connecting member of the present mode, the information medium portion includes an information medium piece to and from which the information is writable and readable by means of a light such as laser light in the same principle as an optical disc or a magneto-optical disc, or includes an information communication storage chip described in the following mode.

Please replace paragraph [0072] with the following rewritten paragraph:

**[0072]** (43) A ~~component-supplying-tape~~ component-tape connecting member according to mode (42), wherein the information medium portion includes an information communication storage chip which is fixed to the connecting member and which has a communication portion capable of having communication in a non-contact manner.

Please replace paragraph [0078] with the following rewritten paragraph:

**[0078]** (44) A ~~component-supplying-tape~~ component-tape connecting member according to any one of modes (41)-(43), wherein the information medium portion stores information relating to the electronic circuit components which are held by the carrier tape of the component supplying tape.

Please replace paragraph [0080] with the following rewritten paragraph:

**[0080]** (45) A ~~component-supplying-tape~~ component-tape connecting member according to mode (44), wherein the information relating to the electronic circuit components includes at least an identification data of the electronic circuit components held by the carrier tape of the component supplying tape.

Please replace paragraph [0081] with the following rewritten paragraph:

**[0081]** (46) A ~~component-supplying-tape~~ component-tape connecting member according to mode (44) or (45), wherein the information relating to the electronic circuit components includes at least a data indicative of number of the electronic circuit components held by the carrier tape of the component supplying tape.



Please replace paragraph [0082] with the following rewritten paragraph:

**[0082]** (47) A ~~component-supplying-tape~~ component-tape connecting member according to any one of modes (41)-(46), being a connecting tape.

Please replace paragraph [0083] with the following rewritten paragraph:

**[0083]** (50) A connecting-member supplying device for supplying a connecting member which connects a leading end portion of a component ~~supplying~~ tape and a trailing end portion of another component ~~supplying~~ tape, each of the component ~~supplying~~ tapes ~~holding including a carrier tape and a plurality of electronic circuit components arranged thereon on and held by the carrier tape,~~ and being to be fed in a longitudinal direction thereof for sequentially positioning the electronic circuit components in a component supplying position, the connecting-member supplying device ~~being characterized by~~ including:

an information reading and supplying device which reads, from a storing-member-information medium portion, information relating to the ~~electronic circuit components held by the component supplying~~ tape, and which supplies the information, the storing-member-information medium portion being provided in a tape storing member which stores the component ~~supplying~~ tape such that the component ~~supplying~~ tape can be taken out of the tape storing member, with the leading end portion being first pulled out of the tape storing member;

an information writing device which writes at least a part of the information supplied from the information reading and supplying device, to a connecting-member information medium portion provided in a connecting member, such that the written part of the information is readable from the connecting-member information medium portion, the connecting member connecting the leading end portion of the component ~~supplying~~ tape stored in the tape storing member, with the trailing end portion of the above-described another component ~~supplying~~ tape; and

a supplying portion which holds the connecting member, and allows supply of the connecting member after the part of the information is written to the connecting-member information medium portion by the information writing device.

**[0086]** (51) A connecting-member supplying device according to mode (50), wherein the supplying portion includes a connecting-member feeding device which feeds the connecting member out from the connecting-member supplying device, after the information is written to the information medium portion of the connecting member.

Please replace paragraph [0089] with the following rewritten paragraph:

**[0089]** (60) An electronic-circuit-component supplying system including:  
a tape feeder which includes (a) a storing-member holding portion holding a tape storing member storing a component ~~supplying~~ tape which ~~holds~~ includes a carrier tape and a plurality of electronic circuit components arranged ~~thereon~~ on and held by the carrier tape, and which is to be fed in a longitudinal direction of the tape for sequentially positioning the electronic circuit components in a component supplying position, and (b) a feeding device feeding the component ~~supplying~~ tape in the a longitudinal direction of the component tape, by taking the component ~~supplying~~ tape out of the tape storing member, such that a leading end portion of the tape is first pulled out of the tape storing member, whereby the electronic circuit components are sequentially positioned in the a component supplying position;  
an information reading and supplying device which reads, from a storing-member-information medium portion provided in the tape storing member, information relating to the ~~electronic circuit components held by the component supplying~~ tape, and which supplies the information;  
an information writing device which writes at least a part of the information supplied from the information reading and supplying device, to a connecting-member information medium portion provided in a connecting member, such that the written part of the information is readable from the connecting-member information medium portion, the connecting member connecting the leading end portion of the component ~~supplying~~ tape stored in the tape storing member, with a trailing end portion of another component ~~supplying~~ tape which is being fed by the feeding device; and  
a supplying portion which holds the connecting member, and allows supply of the connecting member after the part of the information is written to the connecting-member information medium portion by the information writing device.

Please replace paragraph [0090] with the following rewritten paragraph:

**[0090]** The tape storing member may be provided, for example, by a tape reel on which the component ~~supplying~~ tape is wound, or a tape storing box in which the component ~~supplying~~ tape is stored. It is common that the storing-member-information medium portion of the tape storing member stores the information relating to the electronic circuit components held by the component ~~supplying~~ tape which is stored in the tape storing member. Therefore, in the arrangement in which at least a part of the information read by and supplied from the reading and supplying device is readably written by the information writing device to the connecting-member information medium portion, the information read from the connecting-

member information medium portion can be utilized in various operations carried out in the electronic-circuit-component supplying system. It is commonly easier to read the information from the information medium portion provided in the connecting member, than to read the information from the information medium portion provided in the tape storing member. For example, where the tape storing member is provided by a tape reel, it is common that the storing-member information medium portion is provided on a side face of the tape reel. Thus, it is difficult to read the information from the storing-member information medium portion, where the plurality of tape storing members each held by the storing-member holding portion are positioned to be close to each other. However, the information stored in the connecting-member information medium portion can be read, for example, from a position above or below the connecting member. Further, in the arrangement in which the information stored in the storing-member information medium portion is written to the connecting-member information medium portion, the information relating to the electronic circuit components held by the component supplying tape stored in the tape storing member can be easily written to the connecting-member information medium portion, and different information is prevented from being erroneously written to the connecting-member information medium portion.

Please replace paragraph [0092] with the following rewritten paragraph:

**[0092]** (61) An electronic-circuit-component supplying device according to mode (60), wherein the supplying portion includes a connecting-member feeding device which feeds the connecting member out from the connecting-member supplying device, after the information is written to the information medium portion of the connecting member.

Please replace paragraph [0094] with the following rewritten paragraph:

**[0094]** (63) An electronic-circuit-component supplying system according to any one of modes (60)-(62), including:

- a connecting-member information reading device which is disposed in the vicinity of feed path of the component supplying tape and which reads the written part of the information from the connecting-member information medium portion; and
- a different-information generating portion operable when the part of the information read by the connecting-member information reading device is different from predetermined information, to generate information indicating that the read information is different from the predetermined information.

Please replace paragraph [0098] with the following rewritten paragraph:

**[0098]** (70) An electronic-circuit-component mounting system, including:  
a board holding device which holds a circuit board such as a printed-wiring board;  
a tape feeder which positions each of a plurality of electronic circuit components ~~arranged on and held by a component supplying tape~~, in a predetermined component supplying position, by feeding the a component supplying tape which includes a carrier tape and the plurality of electronic circuit components arranged on and held by the carrier tape, in a longitudinal direction ~~thereof of the carrier tape~~;  
a mounting device which receives the electronic circuit components positioned in the component supplying position by the tape feeder, and mounts the electronic circuit components onto the circuit board held by the board holding device;  
a tape information reading device which is disposed in the vicinity of feed path of the component ~~supplying~~ tape and which reads information from a tape information medium portion provided in the component ~~supplying~~ tape; and  
a different-information generating portion operable when the information read by the tape information reading device is different from predetermined information, to generate information indicating that the read information is different from the predetermined information.

Please replace paragraph [0099] with the following rewritten paragraph:

**[0099]** Although the tape information medium portion in the present mode may include a connecting-member information medium portion defined in the following mode, the tape information medium does not necessarily have to include the connecting-member information medium portion. For example, the tape information medium portion may be provided in the leading end portion of the component ~~supplying~~ tape, by either a maker or user of the electronic circuit components, before the component ~~supplying~~ tape is connected to the preceding component ~~supplying~~ tape. The tape information medium portion preferably includes at least one of a bar code, a two-dimensional code, an information medium piece to and from which the information is writable and readable by means of a light such as laser light in the same principle as an optical disc or a magneto-optical disc, and an information communication storage chip. The tape information reading device defined in the present mode may be interpreted to include the component-tape ~~code recognizing~~ information reading device defined in the above-described mode (29). The information generating portion defined in the above-described mode (29) may be interpreted to include the different-information generating portion defined in the present mode.

Please replace paragraph [0100] with the following rewritten paragraph:

**[0100]** (71) An electronic-circuit-component mounting system according to mode (70), wherein the tape feeder feeds connected ~~component-supplying~~ component tapes which are constituted by connection of a trailing end portion of a preceding ~~component-supplying~~ component tape and a leading end portion of a following ~~component-supplying~~ component tape through a connecting member, and wherein the tape information reading device includes a connecting-member information reading device which reads information from a connecting-member information medium portion provided in the connecting member.

Please replace paragraph [0103] with the following rewritten paragraph:

**[0103]** The predetermined-information storing portion may be provided by a portion storing identification information of electronic circuit components which are expected to be mounted onto a circuit board in an electronic-circuit-component mounting program. However, the predetermined-information storing portion may be provided by a portion of the mounting program per se which portion stores the identification information of the electronic circuit components. Further, the predetermined information may be provided by information which is read from the connecting-member information medium portion when the preceding component ~~supplying~~ tape is connected to a component ~~supplying~~ tape preceding this preceding component ~~supplying~~ tape.

Please replace paragraph [0104] with the following rewritten paragraph:

**[0104]** (73) An electronic-circuit-component mounting system according to mode (70), wherein the tape feeder which feeds connected ~~component-supplying~~ component tapes which are constituted by connection of a trailing end portion of a preceding ~~component-supplying~~ component tape and a leading end portion of a following ~~component-supplying~~ component tape through a connecting member, and wherein the tape information reading device includes a connecting-member information reading device which reads information from a connecting-member information medium portion provided in the connecting member, and wherein the different-information generating portion includes:  
a preceding-component information storing portion which stores information relating to the electronic circuit components held by the preceding component ~~supplying~~ tape;  
and  
a determining portion which makes a determination as to whether or not the information read by the connecting-member information reading device corresponds to the information stored in the predetermined-information storing portion,

the different-information generating portion generating the information indicating that the read information is different from the predetermined information, when a negative decision is obtained in the above-described determination made by the determining portion.

Please replace paragraph [0105] with the following rewritten paragraph:

**[0105]** (74) An electronic-circuit-component mounting system according to any one of modes (70)-(73), including:

an information reading and supplying device which reads, from a storing-member-information medium portion, information relating to the electronic circuit components, and which supplies the information, the storing-member-information medium portion being provided in a tape storing member which stores the component ~~supplying~~ tape such that the component ~~supplying~~ tape can be taken out of the tape storing member, with the leading end portion being first pulled out of the tape storing member;

an information writing device which writes at least a part of the information supplied from the information reading and supplying device, to the connecting-member information medium portion; and

a supplying portion which holds the connecting member, and allows supply of the connecting member after the part of the information is written to the information medium portion by the information writing device.

Please replace paragraph [0106] with the following rewritten paragraph:

**[0106]** (75) An electronic-circuit-component mounting system according to mode (74), wherein the supplying portion includes a connecting-member feeding device which feeds the connecting member out from the connecting-member supplying device, after the information is written to the information medium portion of the connecting member.

Please replace paragraph [0108] with the following rewritten paragraph:

**[0108]** (80) An electronic-circuit-component mounting system including:

a board holding device which holds a circuit board ~~such as a printed wiring board~~;

a tape feeder which includes (a) a storing-member holding portion holding a tape storing member storing a component ~~supplying~~ tape which ~~holds~~ includes a carrier tape and a plurality of electronic circuit components arranged ~~thereon~~ on and held by the carrier tape, and which is to be fed in a longitudinal direction of the tape for sequentially positioning the electronic circuit components in a component supplying position, and (b) a tape feeding device feeding the component ~~supplying~~ tape in the a longitudinal direction of the component

tape, by taking the component ~~supplying~~ tape out of the tape storing member, such that a leading end portion of the tape is first pulled out of the tape storing member, whereby the electronic circuit components are sequentially positioned in ~~the~~ a component supplying position;

an information reading and supplying device which reads, from a storing-member-information medium portion provided in the tape storing member, information relating to the ~~electronic circuit components held by the component supplying~~ tape, and which supplies the information;

an information writing device which writes at least a part of the information supplied from the information reading and supplying device, to a connecting-member information medium portion provided in a connecting member, such that the written part of the information is readable from the connecting-member information medium portion, the connecting member connecting a leading end portion of the component ~~supplying~~ tape stored in the tape storing member, with a trailing end portion of another component ~~supplying~~ tape which is being fed by the tape feeding device;

a supplying portion which holds the connecting member, and allows supply of the connecting member after the part of the information is written to the connecting-member information medium portion by the information writing device;

a mounting device which receives the electronic circuit components from the tape feeder, and mounts the electronic circuit components onto the circuit board held by the board holding device;

a connecting-member information reading device which is disposed in the vicinity of feed path of the component ~~supplying~~ tape and which is operable upon approximation of the connecting member to the reading device, to read the written part of the information from the connecting-member information medium portion; and

a different-information generating portion operable when the part of the information read by the connecting-member information reading device is different from predetermined information, to generate information indicating that the read information is different from the predetermined information.

Please replace paragraph [0110] with the following rewritten paragraph:

**[0110]** (81) An electronic-circuit-component mounting system according to mode (80), wherein the supplying portion includes a connecting-member feeding device which feeds the connecting member out from the connecting-member supplying device, after the information is written to the information medium portion of the connecting member.

Please replace paragraph [0112] with the following rewritten paragraph:

**[0112]** (90) A ~~component~~ component-tape information providing method of providing information relating to one of two component tapes ~~a plurality of electronic circuit components arranged and held on and by one of two component supplying tapes~~ each including a carrier tape and a plurality of electronic circuit components arranged and held on and by the component tape, in a connecting member which connects a leading end portion of the one of the two component ~~supplying~~ tapes with a trailing end portion of the other of the two component ~~supplying~~ tapes that precedes the one of the two component ~~supplying~~ tapes, so that supply of ~~a plurality of the~~ electronic circuit components through the preceding component ~~supplying~~ tape is followed by supply of the electronic circuit components through the following component ~~supplying~~ tape, the method ~~being characterized by~~ including:

an information reading step of reading the information from a storing-member information medium portion which has the information stored therein and which is provided in a tape storing member storing the following component ~~supplying~~ tape; and

an information writing step of writing at least a part of the read information, to a connecting-member information medium portion provided in the connecting member, such that the written part of the information is readable from the connecting-member information medium portion.

Please replace paragraph [0114] with the following rewritten paragraph:

**[0114]** (100) An electronic-circuit-component supplying method of feeding a plurality of component ~~supplying~~ tapes ~~each holding~~ including a carrier tape and a plurality of electronic circuit components arranged ~~thereon on and held by the carrier tape~~, in a longitudinal direction of the component ~~supplying~~ tapes, for sequentially positioning the electronic circuit components in a component supplying position so as to supply the electronic circuit components, the method ~~being characterized by~~ including:

a component supplying step of supplying the electronic circuit components through a preceding component ~~supplying~~ tape which is one of the plurality of component ~~supplying~~ tapes;

an a first information reading step of reading, at latest before completion of supply of the electronic circuit components through the preceding component ~~supplying~~ tape, information relating to ~~the electronic circuit components held by~~ another of the plurality of component ~~supplying~~ tapes which follows the preceding component ~~supplying~~ tape, from a storing-member information medium portion provided in a tape storing member which stores the above-described another of the plurality of component ~~supplying~~ tapes;



an information writing step of writing at least a part of the read information, to a connecting-member information medium portion provided in a connecting member, such that the written part of the information is readable from the connecting-member information medium portion;

a tape connecting step of connecting a leading end portion of the above-described another of the plurality of component ~~supplying~~ tapes, to a trailing end portion of the preceding component ~~supplying~~ tape, through the connecting member provided with the connecting-member information medium portion to which the above-described at least part of the information has been written;

~~an~~ a second information reading step of reading the above-described at least part of the information written to the connecting-member information medium portion of the connecting member, when the connecting member reaches a predetermined position in step of the supply of the electronic circuit components through the preceding component ~~supplying~~ tape; and

a switch allowing/inhibiting step of allowing, if the read information corresponds to a predetermined information, switch from the supply of the electronic circuit components through the preceding component ~~supplying~~ tape, to supply of the electronic circuit components through the above-described another of the component ~~supplying~~ tapes, while inhibiting the switch if the read information is different from the predetermined information.

Please replace paragraph [0115] with the following rewritten paragraph:

**[0115]** In the present mode of the invention, the supply of the electronic circuit components through the above-described another component ~~supplying~~ tape is inhibited if the read information is different from the predetermined information, so that supply of unexpected electronic circuit components can be prevented. The feature described in each of the above-described modes defining the systems or devices is applicable to the method of the present mode.

Please replace paragraph [0146] with the following rewritten paragraph:

**[0146]** There will be described, by reference to Fig. 10, a component-tape code providing process for providing the two-dimensional code 170 in the following component tape 100, wherein the component-tape code providing process includes a step of preparing the connecting tape 152 and a step of connecting the two component tapes 100 through the connecting tape 152. In a storing-member code recognizing step as step 1 (hereinafter referred to as "S1": the other steps being similarly referred) of the component-tape code providing process, the bar code 112 provided in the reel 110 of the following component tape 100 is

read by the bar code reader 230. The read bar code 112 is, in the control device 200, converted into the identification code in the form of the two-dimensional code 170, wherein information represented by the two-dimensional code 170 corresponds to that represented by the bar code 112 (the content of information represented by the two-dimensional code 170 is the same as that represented by bar code 112 in the present embodiment). The two-dimensional data 170 is printed on the connecting tape 152 by the code printing device 250 in a code printing step as S2 of component-tape code providing process. In a connecting step as S3 of the process, the trailing end portion 140 of the preceding component tape 100 and the leading end portion 142 of the following component tape 100 are connected to each other through the connecting piece 150, while being positioned relative to each other. In this instance, the connecting tape 152 is attached to the trailing and leading end portions 140, 142 of the tapes 100.

Please replace paragraph [0158] with the following rewritten paragraph:

**[0158]** There will be described an electronic-circuit-component mounting system as still another embodiment of the present invention. It is noted that the same reference numerals as used in the above-described embodiments will be used to identify the similar elements, and description of these elements will not be provided.

In the present embodiment, the connecting tape 152 has the information medium portion in the form of a chip-shaped electronic tag 470 (hereinafter referred to as "tag chip 470"), as shown in Fig. 16. The tag chip 470 is fixed to the connecting tape 152, and is one example of an information transmission/storage chip including a transmitting portion capable of having communication in a non-contact manner. The tag chip 470 has a main body 472 and an antenna 474 which is elongated in a longitudinal direction of the connecting tape 152 (i.e., in the longitudinal direction of the component ~~supplying~~ tapes 100), and communicates with an information reading device which is described below, so as to transmit the information to the information reading device. In the present embodiment, the tag chip 470 stores therein information indicative of type number (identification information) and dimensions of the components 34 of the following component ~~supplying~~ tape 100, number of the components 34 held by the carrier tape 102 (i.e., number of the components 34 carried by a new component ~~supplying~~ tape 100 which has not yet supplied any one of the components 34), width and thickness of the component ~~supplying~~ tape 100, spacing pitch in the arrangement of the components 34, type of the component ~~supplying~~ tape 100 (e.g., whether it is of the emboss-carrier type or punch-carrier type), name of the maker and the production lot. That is, the tag chip 470 represents the same information as the bar code 112 provided in the reel 110 of the following component ~~supplying~~ tape 100. A method of providing the information relating to the components 34, in the tag chip 470 provided in the connecting tape

152 will be described later.

Please replace paragraph [0165] with the following rewritten paragraph:

**[0165]** The above-described control device 200 and the host computer 218 cooperate with each other to have function to manage the number of the components 34 remaining in each feeder 82 of the component supplying device 20 and each tray 84 of the component supplying device 22. The host computer 218 is provided with a remaining component memory which memories the number of the components 34 remaining or stored in each feeder 82 and tray 84, in relation with identification code of each feeder 82 and tray 84, so that the host computer 218 provides the control device 200 with data indicative of number of the components 34 currently stored or remaining in each feeder 82 or tray 84 when each feeder 82 or tray 84 is mounted onto the component supplying device 20 or 22. The control device 200 is adapted to memorize the number of the components stored or remaining in each feeder 82 or tray 84, and to update the data indicative of the number of the remaining components every time each one of the components 34 is supplied from each feeder 82 or tray 84. Further, every time supply of the components 34 by the following component supplying tape 100 (or new tray 84) is initiated, the data is reset to number of the components 34 held by the following component supplying tape 100 (or new tray 84).

Please replace paragraph [0166] with the following rewritten paragraph:

**[0166]** The above-described "initiation of the supply of the components by the following component supplying tape 100" can be detected in various manners. However, in the present embodiment, it is detected by detecting a fact that a predetermined number of the components 34 have been supplied by the preceding component supplying tape 100 after the detection of the connecting portion of the two component supplying tapes 100 by the tag chip reader 490. The number of the components 34 held by the preceding component supplying tape 100, extending from the connecting portion to the component supplying position, at the point of time at which the connecting portion is detected is known. Therefore, when the known number of the components 34 have been supplied, the leading end of the following component supplying tape 100 reaches the component supplying position, for initiating the supply of the components 34 by the following component supplying tape 100.

Please replace paragraph [0167] with the following rewritten paragraph:

**[0167]** The control device 200 updates the number of the components 34 remaining in each feeder 82 and tray 84, as described above, and transmits the data indicative of the

number of the remaining components 34 to the host computer 218 when the feeder 82 or tray 84 is removed from the component supplying device 20 or 22. The host computer 218 updates the content of the remaining component memory, in accordance with the data transmitted from the control device 200.

Please replace paragraph [0168] with the following rewritten paragraph:

**[0168]** When the component supplying tape 100 wound on the reel 110 has been almost exhausted of the components 34 as a result of successive supply of the components 34, the control device 200 informs the operator of this fact. Described specifically, when the number of the components 34 remaining in each feeder 82 or tray 84 becomes equal to or smaller than a predetermined number, the fact is informed by the indication on the display screen, and at the same time the informing device 246 is activated. In response to that, the operator replenishes the feeder 82 or tray 84 with the component supplying tape 100.

Please replace paragraph [0169] with the following rewritten paragraph:

**[0169]** There will be described a component mounting operation in the present electronic-circuit component mounting system.

A preparation is first made prior to initiation of the mounting operation. Before the plurality of feeders 82 are mounted onto the feeder support base 92, the component supplying tape 100 is mounted onto each of the feeders 82. In this instance, the bar code 112 provided in each of the reel 110 and feeder 82 (the bar code provided in each feeder 82 is not shown) is read by the bar code reader 230. The bar code provided in each feeder 82 has feeder information recorded therein. The feeder information includes a feeder identification code which indicates kind of the corresponding feeder 82 and identifies the corresponding feeder 82. It is determined whether the bar code 112 of the reel 110 is a predetermined code (or corresponds to the bar code of the feeder 82 onto which the reel 110 is to be mounted). If the bar code 112 is not the predetermined code, the operator is informed of this fact by the informing device 246. The read bar code 112 is stored into the RAM 208. After the reel 110 is mounted onto the reel holding portion 120, each feeder 82 is attached to a predetermined attached position in the feeder support base 92.

Please replace paragraph [0171] with the following rewritten paragraph:

**[0171]** When the number of the components 34 remaining in the component supplying tape 100 wound on the reel 110 of each feeder 82 becomes small as a result of

successive supply of the components 34, this fact is informed by the informing device 246 and the display screen, so that the feeder 82 in question is replenished with the components 34 in response to the informed fact. That is, in the feeder 82 (connectable feeder 82) in question, connection of the following component supplying tape 100 with the currently used component supplying tape 100 is effected by operator. The operator is thus informed of a fact that there exists the connectable feeder 82 in which the currently used component supplying tape 100 can be connected to the following component supplying tape 100, before the currently used component supplying tape 100 is exhausted of the components 34. Therefore, in response to the informed fact, the operator can carry out the tape connecting operation and replenish the feeder 82 with the components 34, before the component supplying tape 100 is exhausted of the components 34. Thus, owing to the tape connecting operation in the connectable feeder 82, the exhaustion of the components 34 is avoided or minimized. Further, the tape connecting operation can be made rapidly and accurately in accordance with the indication of the display screen. Further, owing to the activation of the informing device 246 and the connection of the tapes 100 in the connectable feeder 82, the feeder 82 can be replenished with the components 34 in an early stage, thereby avoiding delay of the replenishment and improving reliability in the supply of the components 34. In the present electronic-circuit component mounting system in which the component supplying device 20 is disposed in a fixed position, the tape connecting operation can be made irrespective of whether the components 34 are being currently supplied or not. It is noted that the operator may carry out the tape connecting operation every time each feeder 82 becomes connectable, or each time number of the connectable feeders 82 is equal to or larger than a predetermined number.

Please replace paragraph [0172] with the following rewritten paragraph:

**[0172]** There will be described, by reference to Fig. 16, a component information providing method including a writing step of writing information relating to the components 34 of the component supplying tape 100 held by the reel 110, to the tag chip 470 which is fixed to the connecting tape 512 serving to connect two component supplying tapes 100 such that the written information is readable from the tag chip 470. In an information reading step as step 101 (hereinafter referred to as "S101": the other steps being similarly referred) of the component information providing method, the information relating to the components 34 is read by the bar code reader 230, from the bar code 112 provided in the reel 110 of the following component supplying tape 100. The read information is supplied to the information writing device 556 of the connecting-tape supplying device 550 through the control device 200, so that (at least component identification data of) the information is readably written to the tag chip 470 in an information writing step as S102 of the component information

providing method. In a tape connecting step as S103 of the method, the trailing end portion 140 of the preceding component supplying tape 100 and the leading end portion 142 of the following component supplying tape 100 are connected to each other through the connecting piece 150, while being positioned relative to each other. In this instance, the connecting tape 152 (carrying the tag chip 470 to which the component identification data has been written) is attached to the trailing and leading end portions 140, 142 of the tapes 100.

Please replace paragraph [0173] with the following rewritten paragraph:

**[0173]** Next, there will be described, on the basis of the flow chart of Fig. 17, the erroneous-connection preventing program stored in the RAM 208. The present program is initiated with S110 in which it is determined whether a connection enable flag is in its ON state or not. As described above, when the number of the components remaining in any one of the feeders 82 is equal to or smaller than a predetermined number, the operator is informed of the fact that the following component supplying tape 100 can be connected to the preceding component supplying tape 100 in the feeder 82. In this instance, at the same time, the connection enable flag is set to ON. Since the connection enable flag is normally in its OFF state, the first execution of the erroneous-connection preventing program is terminated with a negative decision in S110. If an affirmative decision is obtained in S110, S111 is repeatedly implemented to determine whether the connecting tape 152 has been detected by the tag chip reader 490. Since the tape connecting operation is made by the operator in response to the above-described connection enable information, the connecting tape 152 is detected whereby an affirmative decision is obtained in S111. The affirmative decision in S111 is followed by S112 in which the component identification data written in the tag chip 470 is read by the tag chip reader 490 in S112.

Please replace paragraph [0174] with the following rewritten paragraph:

**[0174]** In the subsequent S113, it is determined whether each data element of the read component identification data corresponds to the corresponding data element of the component identification data of the preceding component supplying tape 100. The component identification data of the preceding component supplying tape 100 is one example of predetermined information, and corresponds to the content of the bar code 112 of the reel 110, which has been read by the bar code reader 230 and stored into the RAM 208 when the feeder 82 has been mounted onto the feeder support base 92. Therefore, an affirmative decision in S113 means that the predetermined component supplying tape 100 has been correctly connected. The affirmative decision in S113 is followed by S114 in which the connection enable flag is reset to OFF, so that the component supplying operation is

continued. On the other hand, a negative decision in S113 means that a wrong component supplying tape 100 has been erroneously connected. The negative decision in S113 is followed by S115 in which the operator is informed of this fact. S116 is then implemented to suspend the supply of the components 34. In this instance, the supply of the components 34 from all the feeders 82 may be suspended, or alternatively, only the supply of the components 34 from the feeder 82 in which the wrong component supplying tape 100 has been connected to the preceding component supplying tape 100 may be suspended. In the latter case, it is preferable that the component supply from the feeder 82 whose supply has been suspended is preceded by the component supply from the other feeders 82, while the replenishment of the feeder 82 with a correct component tape is being awaited. Where there is mounted, on the feeder support base 92, another feeder 82 which supplies the same components 34 as those to be supplied by the feeder 82 whose supply has been suspended, it is preferable that the components 34 are supplied by this another feeder 82 in place of the feeder 82 in question.

Please replace paragraph [0175] with the following rewritten paragraph:

**[0175]** In the present embodiment, the component identification data stored in the tag chip 470 is compared with the content of the bar code 112, as the predetermined component-tape code, which has been read when each feeder 82 has been mounted onto the feeder support base 92, not only in the first tape-connecting operation but also in the second and following tape-connecting operations effected for each feeder 82. However, the content of the predetermined component-tape code may be updated each time the tape-connecting operation is effected, such that the data content of the predetermined component-tape code corresponds to that of the tag chip 470 read after the previous tape-connecting operation. This arrangement makes it possible to easily deal with various cases such as a case where the information relating to the preceding component supplying tape 100 and the information relating to the following component supplying tape 100 are different from each other in data element thereof such as number of the components 34, and a case where the operator allows, even although the operator is informed of the above-described fact in S115, the supply of the components 34 by the following component supplying tape 100.

Please replace paragraph [0177] with the following rewritten paragraph:

**[0177]** In the present embodiment, it is possible to prevent supply of wrong components 34 where two component supplying tapes are spliced to each other. Since the connecting tape 152 is provided with the tag chip 470 which records the identification information of the following component supplying tape 100, the information can be easily read by the tag chip reader 490 which is positioned above the tag chip 470. This arrangement

is particularly favorable for reading the information while the feeder 82 is mounted on the feeder support base 92.

Please replace paragraph [0178] with the following rewritten paragraph:

**[0178]** The information medium portion can be provided not only by the electronic tag but also by, for example, an information medium piece to and from which the information is writable and readable in the same principle as an optical disc or a magneto-optical disc. Where the information medium portion is provided by such an information medium piece, the information medium piece has to be opposed to an information reading device which reads the information from the information medium piece. As a measure for assuring that the information reading is done in a state where the information medium piece and the information reading device are precisely opposed to each other, a reading-enabling-condition detecting device may be provided to detect a condition which enables the information medium piece to be read by the information reading device. For example, in the above-described embodiment, a connecting-portion detecting device as an example of the reading-enabling-condition detecting device may be provided to detect a connecting portion of two component ~~supplying~~ tapes which are connected to each other. The connecting-portion detecting device may be provided by a metal detector capable of detecting the connecting piece 150 made of a metallic material, and is arranged to detect the connecting portion of the two component ~~supplying~~ tapes 100 by detecting the connecting piece 150. The detection of the connecting portion is made by the detection of the connecting piece 150, for example, in a manner similar to that disclosed in JP-A-2000-13092. The connecting-portion detecting device does not have to be provided necessarily by a contact-type sensor such as the above-described metal detector, but may be provided by a proximity sensor as a kind of non-contact-type sensor, a photoelectric sensor of light-reflection type or a photoelectric sensor of light-transmission type.

Please replace paragraph [0179] with the following rewritten paragraph:

**[0179]** The information medium portion does not have to be provided in the connecting member such as the connecting tape, but may be provided in the component ~~supplying~~ tape 100, for example, directly in the cover tape 104. In this case, it is preferable that the tape information medium portion is provided in a leading end portion or its vicinity of the cover tape 104 of the following component ~~supplying~~ tape, so that the reading of the information and the determination as to the read information can be made in an early stage after the connection of the component ~~supplying~~ tapes.